



Missouri University of Science and Technology  
**Scholars' Mine**

---

Campus Resources for Faculty

Center for Advancing Faculty Excellence (CAFE)

---

15 Jun 2018

## Gap Analysis on Faculty Development at Missouri University of Science and Technology

Center for Advancing Faculty Excellence

Follow this and additional works at: [https://scholarsmine.mst.edu/cafe\\_resources](https://scholarsmine.mst.edu/cafe_resources)

 Part of the [Higher Education and Teaching Commons](#)

---

### Recommended Citation

Center for Advancing Faculty Excellence, "Gap Analysis on Faculty Development at Missouri University of Science and Technology" (2018). *Campus Resources for Faculty*. 2.  
[https://scholarsmine.mst.edu/cafe\\_resources/2](https://scholarsmine.mst.edu/cafe_resources/2)

This Report is brought to you for free and open access by Scholars' Mine. It has been accepted for inclusion in Campus Resources for Faculty by an authorized administrator of Scholars' Mine. This work is protected by U. S. Copyright Law. Unauthorized use including reproduction for redistribution requires the permission of the copyright holder. For more information, please contact [scholarsmine@mst.edu](mailto:scholarsmine@mst.edu).

---

# GAP ANALYSIS ON FACULTY DEVELOPMENT AT MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

June 15, 2018

Prepared by Dr. Larry Gragg  
Chair

Center for Advancing Faculty Excellence

## TABLE OF CONTENTS

Expectations for Tenure and Promotion.....	3
Evaluation of Third-Year Reviews.....	5
Evaluation of the Tenure and Promotion Process .....	6
Evaluation of Teaching and Teaching Dossiers for Tenure and Promotion Cases.....	7
Evaluation of Research Productivity on Campus.....	8
Barriers in Progress to Tenure and Promotion .....	9
Quality of Mentoring on Campus .....	9
Nature of Assistance from Departments, Colleges, Campus and UM System .....	10
The Challenge of the Mid-Career Professor .....	11
Should Research in Pedagogy be a Path for Tenure-Track Faculty to Pursue Tenure and Promotion? .....	12
Interest in Seeking an Administrative Position .....	13
Departmental Cultures.....	13
Recommendations .....	14
Actions CAFE Will Take .....	15

# Gap Analysis on Faculty Development at Missouri University of Science and Technology

The most critical element in the first year of the Center for Advancing Faculty Excellence (CAFE) has been the completion of a gap analysis regarding campus support of faculty development. What has Missouri S&T done well and where has the campus fallen short? What should CAFE do to enhance the performance of faculty?

This report, a response to those questions, is based largely upon 80 interviews. Thirty-one of the interviews were with those who assess faculty performance, ranging from University of Missouri President Mun Choi, Missouri S&T Interim Chancellor Chris Maples, and Provost Robert Marley down through deans, associate deans, department chairs and the four faculty members who last chaired the campus tenure and promotion committee. The rest of the interviews were with full-time faculty at all ranks, including non-tenure-track (NTT) faculty. In addition, three surveys of campus faculty have been helpful: a 2015 NTT survey, a 2016 Collaborative on Academic Careers in Higher Education (COACHE) survey, and a 2017 campus climate survey.

---

## Expectations for Tenure and Promotion

The interviews and survey results demonstrate that probationary faculty generally have a fair grasp of their department's expectations in teaching, research and service for tenure and promotion to associate professor.

In research, they know that it is essential to maintain an active and consistent research agenda. However, they do not always have a sense of the specific metrics they need to hit for the annual average of sponsored research or in the average number of articles needed each year. Faculty in the disciplines requiring the publication of monographs in addition to journal articles do understand the necessity of publication of at least one book in a university press and several articles by their tenure year. In most disciplines the faculty understand the imperative of obtaining external grants to support their research agenda although the precise average figure per year is not clear. Clarity is least evident in those departments without written expectations, those that have experienced recent changes in department chairs, or those that are engaged in revising their written expectations.

In teaching, the workloads, which varied among the campus departments, were mostly stable for probationary faculty. As to quality of their teaching, most understand that they must

exhibit continuous improvement in student learning and, in some cases, they understand that their student evaluation averages must be at or above the department and campus average.

In service, most faculty had minimal expectations so that they could enhance their research record.

Similarly, most assistant teaching faculty have a clear sense of expectations for them.<sup>1</sup> The typical teaching load for NTT faculty is three courses per semester, along with other duties that range from advising students and running laboratories to assuming accreditation responsibilities and serving on select department and campus committees.

While assistant professors and assistant teaching professors believe that they understand what is expected of them, at all levels of administration there are concerns with departmental expectations for teaching, research and service for probationary faculty. Some departments have crafted clear expectations for all three areas; others have not. That has led to a sense that the campus is suffering from inconsistency in the rigor of expectations. Complicating this problem is the belief that some who serve on the campus tenure and promotion committee too often evaluate dossiers through the lens of their department's expectations. This has made it imperative that department chairs craft cover letters that help both campus committee members and those who write external evaluation letters understand what the expectations are in teaching, research and service in their respective departments.

The widely held belief among associate professors, evidenced by both interviews with them and survey responses, is that departments have done a much better job of identifying expectations for mandatory tenure cases than for full professor cases. In many departments, there are no metrics to enable faculty members to gauge their progress. While it is evident that their research record will count the most, several faculty members indicated that there are increasing expectations for teaching. For example, departments expect them to develop new courses to enhance the curriculum of their majors while they maintain good student evaluation scores. In addition, there is a greater advising load once faculty become associate professors. Some explain that their department's expectations are evolving in the wake of the developing workload models.

Still, there was a general agreement that successful candidates for full professor must develop *independent, internationally recognized* records of research. There was also agreement that successful cases are inevitably built upon the research record of the candidate. Outstanding

---

<sup>1</sup> Missouri University of Science and Technology Campus Climate Research Study, (Rankin and Associates, September 2017), 177. The COACHE survey results indicated that faculty saw "Expectations for Tenure" as a strength for the campus. See "Tenure and Promotion," Results of the COACHE Survey, 2016.

teaching will not suffice, but a poor teaching record could prevent campus committee approval. As one faculty member explained, “Great teaching cannot save you, but poor teaching can kill you.”

---

## EVALUATION OF THIRD-YEAR REVIEWS

All who assess faculty performance believe that there is value in a careful review of probationary faculty members beyond their annual reviews within their departments because such a process provides the perspectives of the dean or associate dean of the College and that of a member of the campus tenure and promotion committee. Most perceive the process is one that leads to helpful feedback for the faculty member under review. However, there is concern, particularly in the College of Engineering and Computing, that having the review in the third year is too late to benefit a probationary faculty member. They explain that it is difficult for many to catch up on sponsored research or to get a Ph.D. student at that stage. Those critical of the third-year review argue for a sequence of reviews in the second and fourth years. The first should be a “counseling” session -- one that acknowledges the progress that the candidate has made in teaching and research -- but also provides specific advice in areas that require improvement. For those who fall short of expectations, the department and College should offer appropriate mentoring and resources. The second session should be one that results in a frank assessment of the candidate’s prospects for a successful mandatory tenure year. However, in the College of Arts, Sciences, and Business, three department chairs opposed the idea of a second-year review. They pointed out that in their disciplines two years is insufficient to gain a sense of a researcher’s potential because some journals have a review process that is often quite lengthy with multiple revisions of manuscripts required. In addition, it usually takes a professor in the humanities more than two years to complete a monograph.

Most faculty who recently completed their third-year reviews, despite some reservations about some aspects of the process, saw it as helpful in their progress toward the mandatory tenure year. In particular, they appreciated the specific feedback the committee provided, which they saw as fair. For example, in some cases, the committee recommended that the faculty member not pursue multiple service activities or teach fewer courses to enable them to focus on their research efforts. In another case, the committee recommended that the candidate pursue external funding to support their research agenda. Some had accurately anticipated the outcome of the review because of the extensive annual reviews done by their department chairs. One faculty member was concerned going into the process because this person had heard that the outcomes tended to be negative and was pleased to discover the contrary. In one case, the faculty member was confused because the chair’s letter was more negative than the tone of the discussion in the meeting. Those who had an opinion were split on whether the third or fourth year was the best for such a review. On balance, almost all saw the process as constructive, a useful way to learn about their strengths and areas needing work.

---

## EVALUATION OF THE TENURE AND PROMOTION PROCESS

The tenure and promotion process, at best, is challenging for all involved because there are separate deliberations at the department, area and campus levels. The area and campus committees include faculty from multiple departments who regularly see research dossiers in areas of specialization for which they have little or no familiarity. In some cases, faculty members participating in the process exercise three votes on an individual case -- at the department, area and campus levels. Once a case reaches the campus tenure and promotion committee, the faculty members involved are heavily reliant upon the department chair's cover letter and the external letters. Increasingly, they are also drawing upon the various recently developed metrics such as, h-index, Scopus, and Academic Analytics to assess the developing national reputation of a candidate.

Many concerns and questions emerged about the process:

1. There is not always a clear link between the written tenure and promotion policy and the decision reached by a department.
2. There may be too-heavy a reliance upon h-index, Scopus, and Academic Analytics as a short cut in assessing research records.
3. Department chairs' cover letters must be clear to external letter writers and campus committee members what the expectations are in their department for teaching, research and service accomplishments.
4. Should a faculty member have more than one vote in the tenure and promotion process? Would it be better to permit a faculty member to be part of the process at more than one level, but with only one vote? **In February 2018, Faculty Senate members voted to keep the current process permitting a faculty member to vote at each level of consideration in the tenure and promotion process.<sup>2</sup>**
5. There is little common ground for judging research records in the different disciplines.
6. Departments, in some cases, are not getting "appropriate" people to write letters. Some are from institutions that have much higher expectations for tenure. It is not always clear what the relationship of the letter author is to the candidate. Some letters are too short to help the committee understand the candidate's national standing.
7. It is not clear in some cases what the importance of the order of authors represents in cases. Is it more important to be first author or last author? Also, in too many cases, committee members

---

<sup>2</sup> Faculty Senate Minutes, February 8, 2018, 6.

could not discern what contribution the candidate was making to the scholarly output when there were papers with multiple-authors making up the research dossier.

8. Some are concerned with candidates publishing in new or relatively new journals just to increase the number of publications. There is also a concern with journals which require a payment to publish.

9. Some dossiers do not include an explanation of the relative importance of conference papers v. journal articles v. books. This is critical because their importance varies among academic disciplines.

10. Candidates' statements and CVs do not always explain clearly what they have done since they arrived at S&T or what they have done since they became an associate professor.

---

## EVALUATION OF TEACHING AND TEACHING DOSSIERS FOR TENURE AND PROMOTION CASES

Satisfaction varies considerably with the quality of teaching dossiers in tenure and promotion cases because there is no widely accepted definition of effective teaching nor widespread agreement on how to measure teaching effectiveness. Most faculty members argue that the campus does a poor job on both counts, but largely they are critical because of the heavy reliance upon student evaluation scores. As one faculty member explained, the student evaluation scores, at best, measure how students view a professor's work, but they do not demonstrate how effective a professor is in helping students learn more effectively. The low response rates on the student evaluations exacerbate the situation. There is also some concern that a few professors "game" the situation with incentives to students as well as the contention that the current instrument does not ask the right types of questions. On balance, most who assess faculty performance are dissatisfied with the teaching dossiers that come forward for third-year reviews and tenure and promotion cases.

Those who assess faculty performance have identified elements that would contribute to good teaching dossiers, documents that include a multi-dimensional inventory of activities. Beyond a complete inclusion of student evaluations, they include many of the following: a clear departmental statement of expectations in teaching; a clear assessment of goals and approaches in teaching by the candidate; peer assessment letters that address both mastery of content and capability in pedagogy from several semesters, not only from the previous year; a thorough report from a departmental teaching mentoring team; a record of frequent participation in workshops both on campus through the Committee for Educational Research and Teaching Innovation (CERTI) and Educational Technology or the annual Teaching and Learning Technology Conference, and off-campus teaching workshops; examples of trying new teaching methods and technologies that led to greater student success; surveys of alumni or employers; and the implementation of service



learning into one's courses. In all, a good teaching dossier demonstrates an engagement with the learning process, an engagement that has led to student success.

A minority view emerged that regardless of discipline, probationary faculty should not focus upon teaching because a strong research record is much more important. Strength in one's research record will make one's name known beyond the campus; rarely will an excellent teaching record do that unless the person engages in research in pedagogy.

---

## EVALUATION OF RESEARCH PRODUCTIVITY ON CAMPUS

A majority of department chairs are pleased with the research dossiers in their department for third-year reviews and tenure and promotion cases, but others acknowledge that their faculty are neither attracting an adequate level of external support nor publishing an adequate number of articles in the appropriate journals. A few who look across campus at the faculty's research record are concerned that expectations in some departments are too low and that too often there is a willingness to accept a weak research record, fearing a loss of a faculty line. Those who monitor external funding conclude that the percentage of faculty without sponsored research is between 50 and 60 percent.

There are several views on how to increase sponsored research and publications that will enhance both a faculty member's national reputation and the visibility of the institution. These include: changing the culture in each department to one with ever-higher expectations; upper administration backing department chairs who push their faculty to reach higher research expectations; encouraging new faculty to engage less in peer mentoring on grant proposals and focus upon consulting experienced senior faculty for assistance; and providing more incentives on campus for outstanding scholarly achievement, such as better raises for the "rising stars."

As with teaching, it is not always clear that those assessing faculty performance, particularly on the campus tenure and promotion committee, understand the challenges of research in each department. Too often members of that committee examine research productivity of a candidate through the lens of their own discipline rather than respecting the particular expectations of that candidate's discipline and department. For example, some faculty members pointed out that not all departments have Ph.D. programs and thus faculty members in those departments lack the assistance that graduate students provide, but are often compared to departments that do have Ph.D. programs.

The most common criticism, however, at all three ranks of professors, is that there is too much emphasis placed upon expenditures and not enough on publications, in particular, the quality of the publications not necessarily the number of publications. A common concern is that the campus is moving away from valuing the quality of candidates' scholarly work and its impact. To be sure, the campus uses a number of metrics: number of Ph.D. and M.S. students graduated,

presentations at conferences, number of journal articles and books, and number of citations of a faculty member's work. However, collectively, some argue that these metrics do not address scholarly excellence, and those faculty members rely more upon external letters to draw conclusions about excellence.

Some chairs, while acknowledging the need for better research productivity, worry that the current focus on increasing sponsored research will harm the long tradition of the campus' commitment to quality undergraduate teaching.

---

## BARRIERS IN PROGRESS TO TENURE AND PROMOTION

Among probationary faculty, only one mentioned that he or she had yet to encounter barriers. However, most noted two or more barriers to their progress. They ranged from lack of adequate lab space, large classes and classroom management challenges to conflicting goals of campus and UM System leadership. The most common perceived barriers for probationary faculty were more help in preparing proposals to NSF and NIH and the need for a stronger pool of Ph.D. students.

Associate professors identified several barriers, including an absence of a culture in the department that promotes the success of all faculty; heavy teaching loads; too few or no teaching assistants; an inadequate infrastructure to support research; too little time to devote to research; too few qualified Ph.D. students; having enough time to be successful in multiple research, teaching, and service projects; dealing with a frustration that excellence in teaching does not lead to promotion to full professor; and a perception that gender, race and religion has hindered some faculty. Almost one-third of the associate professors indicated that the chief barrier was their own choices. Rather than aggressively pursuing a research agenda, they found greater professional satisfaction in improving their courses and taking on substantial service obligations for the department and campus, including outreach activities.

Almost half of the full professors explained that had encountered no barriers, and that faculty members at times were responsible for not gaining promotion to full professor because they did not take the initiative in developing an appropriately strong scholarly record.

---

## QUALITY OF MENTORING ON CAMPUS

All who assess faculty performance acknowledge the importance of mentoring for faculty, particularly for probationary faculty, however, the approaches to mentoring vary across the campus. In some departments the chair is the critical figure, making clear to new faculty members their departmental expectations and consistently monitoring faculty performance. Other departments utilize an informal process encouraging new faculty members to engage with a number of senior faculty members on questions and concerns dealing with both teaching and

research. A few departments have a formal mentoring process including a teaching mentoring team and a research mentoring team. Both provide annual reports to the department chair. Although there were a few notable exceptions, the majority of faculty members interviewed agreed that they had the benefit of feedback from their departments on their progress or lack thereof toward tenure. Beyond these efforts, some probationary faculty take the initiative to seek either teaching or research mentors outside of their department both on and off campus.<sup>3</sup> Nearly 60 percent of those responding to the 2017 campus climate survey either “strongly agreed” or “agreed” that they “felt supported and mentored during the tenure-track years.”<sup>4</sup>

Although most faculty conclude that mentoring is largely effective for probationary faculty, they argue that there is little help for associate professors to better prepare them to build an appropriate case for full professor.<sup>5</sup> Associate professors who experienced formal feedback identified the department chair as the key individual. These chairs normally, in their annual reviews of faculty, explained what associate professors needed to do to be successful; for example, increase the number of publications or the number of grants. Others indicated that annual reviews were of slight help -- just a pat on the back that they were meeting expectations -- but not indicating if the faculty member was on track to a successful promotion case. A clear majority indicated that they never had formal feedback on their progress to full professor. However, for several, informal mentoring from senior colleagues was quite helpful. In a handful of cases, probationary faculty members reported no feedback at all, formal or informal.

---

#### NATURE OF ASSISTANCE FROM DEPARTMENTS, COLLEGES, CAMPUS AND UM SYSTEM

Departments have assisted virtually all probationary faculty with limited teaching and service loads, adequate start-up packages, funds for travel or new software, and good labs. In one case, a faculty member benefited from having both a teaching mentoring team and research mentoring team. A few noted that they had not had help from either their College office or the campus. However, most noted the College’s role in their start-up package, or in providing seed money for grant proposals, or for funding undergraduate research, or for travel funds for a class trip. Most acknowledge the campus’s role in helpful CERTI workshops, teaching mini-grants, and the assistance of educational technology. Several have grants or are applying for grants from the UM System Research Board.

Almost all associate professors identified help from their department, their College office, the campus, or the UM System in their quest to become a full professor. Department chairs were

---

<sup>3</sup> One among those who assess faculty performance noted a concern that too often probationary faculty seek mentoring advice from peers rather than from senior faculty particularly in grant preparation. Another has observed that there too often is a lack of urgency among assistant professors in addressing the challenges in meeting the requirements for tenure.

<sup>4</sup> Climate Research Study, 171.

<sup>5</sup> “Tenure and Promotion,” COACHE results indicated that this was a concern for expectations as a teacher, a scholar, an advisor and a colleague.

noted as being most helpful in providing reduced teaching loads, funds for travel, or endorsing sabbatical leaves. Deans have helped with course buy-outs and funds to offset publication costs and to support travel. CERTI, educational technology, and the Teaching and Learning Conference have been significant for some. The UM System Leadership Development Program and the New Faculty Scholars program also played a role for a few. A couple noted little or no help from the College office or the campus, but, as one faculty member explained, they expected none.

Most NTT faculty have had various types of support from their departments: clear policies and expectations, funds for travel to workshops, informal mentoring from senior colleagues, and freedom to experiment with courses. In some instances, College offices have assisted NTT faculty with some limited travel funds. Campus support, through CERTI, educational technology, eFellows, and mini-grants has been substantial for NTT faculty. Most importantly, a majority of NTT faculty have been treated well by their departmental colleagues and have not been viewed as “second class” citizens.<sup>6</sup>

---

## THE CHALLENGE OF THE MID-CAREER PROFESSOR

All agreed that the campus has several faculty members who have hit a point in their career where they are no longer making progress toward promotion to full professor. A few characterize them as running out the clock, or just hanging on, however, most see their colleagues as faculty members who want to continue making a contribution to their department and the campus.

*Many offered explanations:*

1. Some associate professors have misconceptions about what is needed to achieve full professorship.
2. Some associate professors have unrealistic understandings of how they are doing, not understanding that their record does not measure up to the achievements of full professors in their department.
3. There appears to be little mentoring for those seeking promotion to full professor.
4. Some are exhausted after the stressful mandatory tenure year.
5. Funding sources they had depended upon are no longer available.

---

<sup>6</sup> The 2015 NTT Survey indicated that those faculty perceived that segments of the campus valued them differently. 83% felt respected by their students, 57% believed that department colleagues valued them, but only 31% felt that the campus administration valued them. See Executive Summary of Questionnaire for Non-Tenure Track Faculty, 2015.

6. Some feel underappreciated, particularly in compensation, become demoralized, and give up. Seeing new assistant professors coming in at higher salaries exacerbates the problem.

*Suggested ways to address the situation are as various as the explanations for why it happens:*

1. A department chair or a mentor could prevent some of these issues by meeting with a faculty member soon after they have gained tenure with promotion to associate professor and help them develop a plan to help make promotion to full professor. Newly minted associate professors are often too ambitious. They may want to have an opportunity for leadership positions, but neglect to do the things essential to achieve that -- developing a record that will gain them promotion to full professor. They need mentoring to help them plan how to realistically realize their goals.
2. For those who make little progress, despite such mentoring, it must be made clear that they are the ones who must take the initiative. It cannot and should not be imposed by a department chair because they have little leverage to force faculty members to make meaningful changes.
3. Once a faculty member expresses an interest in moving forward, it is essential to determine what makes them passionate about their work -- research, teaching, service, or leadership. One approach could be to ask such a faculty member what campus or UM System award -- teaching, research, or service -- appeals to them and then help them work toward that goal.
4. A chair could provide release time and resources to help them "jump start" their research.
5. A chair can help by re-assigning duties. If that reassignment moves them from significant research, there must still be a possibility for rewards from the department and the campus. Examples of meaningful activities include helping a department prepare for an accreditation review, working with student design teams, assisting with an organization like Engineers without Borders, taking the lead in the department's assessment review, chairing significant searches, serving as an associate chair, or becoming a mentor to junior faculty. Regardless of what it may be, most faculty members want to make an "authentic contribution" to their department and the campus.

Finally, some concluded that they saw no problem with faculty members retiring as associate professors as long as they continued to make valuable contributions to the success of their students and colleagues.

---

## SHOULD RESEARCH IN PEDAGOGY BE A PATH FOR TENURE-TRACK FACULTY TO PURSUE TENURE AND PROMOTION?

While it is not unanimous, there is strong sentiment for this as an option for tenure-track faculty. However, those who support it quickly add that such a faculty member would have to

replicate what traditional tenure-track faculty members have done. That is, they would have to demonstrate a national reputation for their research. The ways this could be demonstrated might include publishing the results of their research in the appropriate, top peer-reviewed journals on pedagogy in their field; securing funding for their research; developing digitally assisted learning approaches; organizing teaching workshops; giving plenary talks at national meetings, or developing successful study abroad opportunities. In other words, faculty members taking this approach must demonstrate that they are contributing new knowledge and that they have developed a national impact through their research.

Having such a faculty member in a department would be one meaningful way to enhance instruction, because this faculty member could provide guidance on best practices in their particular discipline. Some chairs, however, cautioned that providing such an opportunity for faculty would require a cultural shift in some, if not most, departments and would require substantial backing from the administration. A few of the faculty members who supported the idea worried that there may not be an adequate number of journals to provide an outlet for research in pedagogy. Others were supportive as long as the faculty member pursuing this path devoted part of their research time to traditional research in their particular discipline to better inform their research in pedagogy. Still, almost all endorsed the idea. As one professor noted, there are professors at Purdue, North Carolina State, Florida, and Colorado State in engineering who have successfully adopted this approach.

---

## INTEREST IN SEEKING AN ADMINISTRATIVE POSITION

Faculty members at all levels are almost equally split on this. The positions that most attracted those who have an interest in serving in an administrative role are those that advance student success or the possibility of becoming a department chair, associate dean or dean. Most agreed that the campus provides little support or training for those considering seeking an administrative position. Further, one faculty member worried that if the campus did invest resources in training people for administrative positions, the few opportunities for leadership on the campus might lead to the departure of some talented people.

---

## DEPARTMENTAL CULTURES

There is a great range of department cultures on the campus. In some departments there is an almost toxic culture where promotions to full professor are rare, or there is a sense that associate professors have been mistreated, or there is a perception that the current senior faculty have raised

expectations higher than those they had faced when seeking promotion to full professor. It is no surprise that associate professors in those departments are intensely bitter and no longer make the effort required for promotion. Most faculty, however, point out that their department “definitely” or “absolutely” has a supportive culture. In those departments, it is an expectation that associate professors will move forward successfully. Chairs do all that they can and senior colleagues are excellent mentors in those departments. The chances of such a culture existing largely is reliant upon who is serving as chair and the quality of recent faculty hires. However, there are departments where, despite an encouraging culture, some associate professors have not made sufficient strides in developing international reputations.

---

## RECOMMENDATIONS

Based on these findings, the CAFE makes the following recommendations to improve support for faculty at Missouri S&T:

1. All departments, if not currently revising expectations, should engage in revisions for tenure with promotion to associate professor and to full professor and expectations for non-tenure track faculty to reach associate teaching professor and teaching professor rank.
2. The campus, notably the senior leadership (and that of the UM System leadership), must make clear what the priorities are for faculty performance. Is the campus on a path to enhance dramatically graduate education and expenditures with accompanying increases in scholarly productivity, or does it intend to continue to be a campus with a balanced portfolio -- to improve undergraduate and graduate student success as well as it continues to improve its research record? Faculty members and department chairs need clear guidance to better utilize their resources. Some chairs indicated that confusion on the central direction the campus will be heading has made it difficult to mentor their junior faculty.
3. The campus must do a better job in evaluating teaching effectiveness. As preliminary steps in that direction, the chair of CAFE is a member of a University of Missouri System ad hoc committee working to produce a report at the end of the spring 2018 semester recommending an approach more comprehensive than relying upon student evaluations alone. The chair of CAFE has also convened a five-member campus ad hoc committee, which included both the chair of the Faculty Senate Committee on Effective Teaching and the campus committee that selects the Outstanding Teaching Awards, to seek ways to improve the current process of student evaluations.
4. The campus would be well served to examine the questions posed in the section labeled **Evaluations of the Tenure and Promotion Process**. A good starting point would be to review “Missouri University of Science and Technology Promotion and Tenure Suggested Guidelines,” produced by Dr. Nancy Stone on June 27, 2016.



5. Given the response to the question **Should Research in Pedagogy be a Path for Tenure-Track Faculty to Pursue Tenure and Promotion?**, the campus should consider this as an option when making hiring decisions.

---

## ACTIONS CAFE WILL TAKE

1. To address the challenge of providing more effective mentoring, CAFE will establish a cadre of “Master Mentors,” accomplished and respected senior tenured and NTT faculty, to provide a resource for faculty beyond their departmental resources.
2. To address the clear need for more effective teaching dossiers, CAFE will establish a program called “Ten Steps to Teaching Success,” modeled on an effective program with a similar name pioneered at the University of Missouri-St. Louis.
3. To address the clear need to provide more help to probationary faculty as they develop a research record, CAFE will establish a program called “Ten Steps to Research Success” that will follow the “Ten Steps to Teaching Success” model.
4. To address the challenges faced by mid-career faculty, CAFE will establish mini-sabbaticals to fund three-to-four week opportunities to travel to other universities, research facilities, or industry to help faculty develop a new research program or to fund three- to four-week opportunities (including NTT faculty) to travel to workshops focused upon teaching for those seeking to develop new courses or ways of delivering those courses.
5. CAFE will continue to fund professional development grants for probationary faculty to augment start up packages for early career faculty to attend teaching or research conferences and continue to develop national and international networks.
6. CAFE will continue to fund the Provost’s eFellows program to encourage further development of new courses and course delivery methods drawing upon the expertise of staff in educational technology.
7. To promote the scholarship of teaching and learning, and continual inquiry into questions about student learning and success, CAFE will continue to fund the Educational Research mini-grants started by the Center for Educational Research and Teaching Innovation.
8. To improve the programs and services of the CAFE, CAFE staff will continue researching the “best practices” in faculty development across the nation.
9. CAFE will continue to host the new faculty orientation, including contingency faculty in the appropriate sessions, and continue the Early Career Faculty Forums to support early career faculty in their transition to Missouri S&T.



10. To support faculty who current serve in, or aspire to a leadership position, CAFE will develop a leadership training summit, drawing upon the expertise of effective chairs at the Missouri S&T campus and in the University of Missouri System. Specifically, some department chairs requested training in the following:

- Helping faculty members preparing effective tenure and promotion dossiers and crafting effective cover letters and letters to external reviewers that clearly explain departmental expectations in research, teaching and service.
- Help with doing a better job in mentoring faculty at all levels of their career.
- Providing advice on what “carrots” exist to help chairs improve faculty productivity and ways to motivate faculty to have a meaningful impact on the campus.
- Help in framing advertisements to attract the right faculty for their department and the best way to form an effective search committee.

---

## List of Interviewees

To those who graciously agreed to be interviewed for this project, my thanks. They understood that I would list their names in the report, and I assured them that I would not link their names to any of the comments above.

Mun Choi  
Chris Maples  
Robert Marley  
Richard Brow  
Steve Roberts  
Daniel Forciniti  
Cihan Dagli  
David Duvernell  
Kate Drowne  
Bruce McMillin  
Yinfa Ma  
John Myers  
John McManus  
George Markowsky  
Jerry Cohen  
Joel Burken  
David Borrok  
Muthana Al-Dahan  
Braden Lusk  
Jim Drallmeier  
Shannon Fogg  
Susan Murray  
Keng Siau

Kris Swenson  
Audra Merfeld-Langston  
Greg Hilmas  
Matt O’Keefe  
Richard Wlezien  
Steve Clark  
Dan Waddill  
Lu Yiu  
Yishu Zhou  
Jason Murphy  
Justin Pope  
David Samson  
Daozhi Han  
James Musser  
Michelle Schwartz  
Alanna Krolikowski  
Clayton Price  
Terry Robertson  
Scott Miller  
Christi Luks  
Rachel Schneider  
Katie Shannon  
Amardeep Kaur

Cheng Wang  
Kate Sheppard  
Joshua Schlegel  
Petra DeWitt  
Jonghyun Park  
Fateme Rezaei  
Julie Semon  
Ana Ichim  
Nathan Twyman  
Hongxian Zhang  
Dan Reardon  
Steve Raper  
David Wright  
Ron Frank  
Klaus Woelk  
Shari Dunn-Norman  
David Enke  
Shoaib Usman  
David Westenberg  
Doug Ludlow  
Doug Bristow  
Francisca Oboh-Ikuenobe  
Mariesa Crow

Kelly Liu  
Michael Davis  
Thomas Vojta  
Gayla Olbricht

Diana Ahmad  
Nancy Stone  
Fiona Nah  
Melanie Mormile

Mark Fitch  
Richard Hall